

Claims

1. An air-suspension system designed as a partly closed system for a vehicle, in which system intake of air from the atmosphere and/or venting of air to the atmosphere can take place as needed, and which has at least one first component (4) provided with communication with the atmosphere, characterized in that the first component (4) serves exclusively for intake of air from the atmosphere, and in that there is provided at least one second component (2) provided with communication with the atmosphere, which component serves exclusively for venting of compressed air to the atmosphere.
2. An air-suspension system according to claim 1, characterized in that the second component (2) is equipped with a valve device (20, 220, 29).
3. An air-suspension system according to claim 2, characterized in that the valve device (20, 220, 29) functions as an overpressure-safety valve.
4. An air-suspension system according to claim 2 or 3, characterized in that an air dryer (21) is provided, and in that the valve device (20, 220, 29) functions to vent compressed air to the atmosphere during a process of regeneration of the air dryer (21).

5. An air-suspension system according to at least one of the preceding claims, characterized in that there is provided a compressed-air delivery device (1) having an intake side and an outlet side, and in that the second component (2) is disposed on the outlet side of the compressed-air delivery device (1).
6. An air-suspension system according to claim 5, characterized in that the compressed-air delivery device (1) is provided on the outlet side with an outlet port (106), which allows delivered air to flow out and is in communication with an inlet port (223) of the valve device (20).
7. An air-suspension system according to at least one of claims 5 or 6, characterized in that an air dryer (21) is provided on the outlet side of the compressed-air delivery device (1).
8. An air-suspension system according to claim 7, characterized in that at least one throttle (212, 28) is provided or can be connected between the compressed-air delivery device (1) and the air dryer (21).
9. An air-suspension system according to claim 8, characterized in that the throttle (212, 28) is in communication or can be placed in communication with the outlet port (106) of the compressed-air delivery device (1).

10. An air-suspension system according to claim 8 or 9, characterized in that the throttle (212) can be interposed by means of the valve device (20).
11. An air-suspension system according to at least one of the preceding claims, characterized in that the first component (4) has a first port (42) for communication with the atmosphere and the second component (2) has a second port (215), constructively separated from the first communicating port (42), for communication with the atmosphere.
12. An air-suspension system according to claim 11, characterized in that the second communicating port (215) is designed as the vent port of a valve device (20, 220, 29).
13. An air-suspension system according to at least one of claims 2 to 12, characterized in that the valve device (20, 220, 29) is designed as a directional control valve having at least two valve positions.
14. An air-suspension system according to claim 13, characterized in that the valve device (10, 220, 29) has at least one normal passing position and one vent position as valve positions.

15. An air-suspension system according to at least one of claims 7 to 14, characterized in that the air flows through the air dryer (21) from an inlet port to an outlet port, both the inlet port and the outlet port being in communication respectively with a port (224, 225) of the valve device (20).
16. An air-suspension system according to claim 14 or 15, characterized in that the valve device (20) in its normal passing position permits a compressed-air flow with relatively large passage cross section from the inlet port (223) to an outlet port (224) and shuts off venting from the port (225) to the vent port (215).
17. An air-suspension system according to at least one of claims 14 to 16, characterized in that the valve device (20) in its vent position permits a throttled compressed-air flow with relatively small passage cross section from the inlet port (223) to the outlet port (224) and permits venting of the compressed air that has flowed through the air dryer (21) from the port (225) to the vent port (215).
18. An air-suspension system according to at least one of claims 14 to 17, characterized in that the valve device (20) has, as a further valve position, a throttled passing position in which a throttled

compressed-air flow from the inlet port (223) to the outlet port (224) is permitted with relatively small passage cross section and venting from the port (225) to the vent port (215) is shut off.

19. An air-suspension system according to claim 17 or 18, characterized in that the ratio between the relatively large passage cross section and the relatively small passage cross section is at least 25:1.
20. An air-suspension system according to at least one of claims 2 to 19, characterized in that the valve device (20, 220, 29) can be actuated by compressed air.
21. An air-suspension system according to claim 20, characterized in that the pressure at the outlet port (106) of the compressed-air delivery device (1) is used for compressed-air actuation of the valve device (20, 220, 29).
22. An air-suspension system according to at least one of claims 2 to 21, characterized in that the valve device (20, 220, 29) is a constituent of a combined air-discharge/dryer device (2), which contains at least one air dryer (21) besides the valve device (20, 220, 29).